

## AquaRES – Aquatic species Register Exchange and Services

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The use of organism names is ubiquitous in a wide range of scientific, environmental management and policy domains. Specialist taxonomic databases and tools to query these data are therefore essential for ensuring the quality of biological data from collection and generation to data management. Species information systems for monitoring status and trends of biodiversity and those dealing with policy concern – Natura 2000 species, commercial, invasive alien species and pest species – benefit from such high quality tools and databases ensuring the interoperability of the data.

The World Register of Marine Species (WoRMS), the Register of Antarctic Marine Species (RAMS) and the Freshwater Animal Diversity Assessment (FADA) database are three major Global Species Directories (GSD) hosted in Belgium. These data collections consist of authoritative taxonomic data, curated by international experts and contribute to several initiatives [e.g. Catalogue of Life (CoL), LifeWatch, Pan-European Species directories Infrastructure (PESI)]. Most of these initiatives rely on a wide array of specialists' contribution to independent checklists and require extensive interactions with a wide expert network. Given the potential overlap in taxonomic specialists and the complex nature of the data, exchanging expertise and data among these initiatives is highly beneficial for all parties involved.

The main objective of the AquaRES project is therefore to ensure and enhance the interoperability and public availability of these aquatic species databases through the development of a set of web services. Such services can guarantee the automatic and timely exchange of data between WoRMS, RAMS and FADA, but also expose the data for use in other initiatives and applications [e.g. Encyclopedia of Life (EoL), Catalogue of Life (CoL), Global Biodiversity Information Facility (GBIF) and e-Science initiatives].

To ensure the quality of the data exposed through those web services, we aim to improve the data import and exchange procedures into the partner databases and will develop a data entry interface to facilitate the entry of more complete distribution information. These procedures and tools will be tested and used during a hands-on workshop with taxonomic experts. To stimulate their involvement and advertise the free and open publication of their data, we will implement a tool for generating a checklist paper, which can be published in a scientific journal and provides more straightforward solution for properly citing and tracking citations of the data.

Throughout this project, we will organise regular consultations with a wide range of potential users to document their requirements and get their feedback on the developed tools and services. Data from the FP7 BioFresh project, the European Ocean Biogeographic Information System (EurOBIS) and the Antarctic Biodiversity information Facility (AntaBIF) will be used as specific test cases to validate and improve the tools. Further tests with data from biological collections and ecological monitoring data are envisaged to ensure that these services are of interest to a wide range of institutes and researchers dealing with aquatic species data.